
Claim 5. (Amended)

D2 A plant or progeny thereof derived from the plant cell of claim 2 wherein the plant or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32.

Claim 8. (Twice amended)

D3 A method of decreasing the steady state level of a passenger protein in a plant cell which comprises placing a nucleic acid construct of claim 1 in the plant cell and expressing said construct.

Claim 13. (Amended)

D4 A plant or progeny thereof derived from a plant cell of Claim 12 wherein the plant or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32.

Remarks

Claims 1-10, 12 and 13 are pending in this application. Applicants have amended Claims 1, 5, 8 and 13 and have deleted Claims 7 and 10 to place the application in condition for allowance. Upon entry of the amendment, Claims 1-6, 8, 9, 12 and 13 will be pending before the Examiner. The amendment does not add any new matter to the application. Applicants respectfully request entry of the amendment under 37 CFR §1.111 without prejudice or disclaimer of the subject matter originally claimed.

Accompanying this Amendment is a petition for a one-month extension of time Pursuant to 37 CFR 1.136, including an authorization for the Commissioner to charge Deposit Account No. 04-1529 the fees due under 37 C.F.R. §§1.16 and 1.17. Applicants note that the one-month period, beyond the set non-statutory three month period for response, expired on Saturday, February 22, 2003. However, under 37 CFR §§1.7 and 1.8, this response including a certificate of mailing falls within the one-month extension period.

Response**Rejection of Claims 1-13 under 35 U.S.C. §112, First Paragraph.**

Claims 5 and 13 stand rejected under 35 U.S.C. §112, first paragraph, for containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the applications was first filed, had possession of the claimed invention. Applicants respectfully traverse based on this Amendment.

The Examiner explained that the claims drawn to progeny derived from the claimed plant cells of claims 2 or 12 failed to recite identifying characteristics such that it was impossible to determine whether or not a plant of unknown parentage would be covered by the claims. Applicants thank the Examiner for pointing this out and have taken action to correct the claims.

Via this amendment, Applicants have included a characteristic of the claimed plants that serve to point out whether a plant of unknown parentage is covered or not. The characteristic that “the plant or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32” was added to both Claims 5 and 13.

Applicants believe they have addressed the basis of the Examiner’s rejection and assert the amendment to Claims 5 and 13 1 overcomes the present rejection. Therefore, Applicants respectfully request the Examiner to remove the rejection of Claims 5 and 13 under 35 U.S.C. §112.

Claims 1-10, 12 and 13 stand rejected under 35 U.S.C. §112, first paragraph, because the specification, while clearly enabling DNA coding for a nucleic acid molecule

of SEQ ID NO: 31, fails to enable the full scope of claims. Applicants respectfully traverse based on this Amendment.

Applicants have amended Claim 1, and all subsequent dependant claims, to limit the scope of nucleic acids coding for the necessary anti-transit peptide antibody to a single nucleic acid (SEQ ID NO: 31) coding for the exemplified scFv. In so doing, applicants have limited the scope of their claims to that which the Examiner stated was clearly enabled. For the foregoing reasons, Applicants respectfully request the Examiner to remove the rejection of Claims 1-10, 12 and 13 under 35 U.S.C. §112.

Rejection of Claims 1-13 Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected Claim 1 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. Specifically, the claim was deemed indefinite based on the use of “having the ability to bind to a transit peptide.”

As noted above, Applicants have limited the scope of their Claims by replacing the phrase in question to “SEQ ID NO: 31.” In so doing, Applicants have fully addressed the Examiner’s concern and respectfully request the removal of this rejection.

Claims 1-10 remain rejected under 35 U.S.C. §112, second paragraph, for the use of the phrase “or fragment thereof.” As discussed above Applicants have replaced the entire second element of Claim 1 with “SEQ ID NO: 31.” Therefore, Applicants have obviated the grounds or this rejection and respectfully request the removal of this rejection.

Claims 5 and 13 remain rejected under 35 U.S.C. §112, second paragraph, based on the use of the term “derived” because it cannot be presumed that the “derived” plants

and progeny of Claims 5 and 13 would necessarily comprise the nucleic acid construct of Claim 1.

Applicants appreciate the Examiner's explanation and now understand the issue. In response, Applicants have amended into Claims 5 and 13 the phrase "wherein the plant or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32" to limit all of the claimed plants and progeny only to those which possess the recombinant phenotype. Thus, Applicants contend that the amendment fully addresses the Examiner's concern and respectfully request the removal of this rejection.

Amended Claim 8 stands rejected under 35 U.S.C. §112, second paragraph, based on the use of the phrase "immunologically functional antibody or fragment thereof." In the present Amendment, Applicants have removed the phrase in question because it is no longer needed in view of the narrowing of Claim 1 to SEQ ID NO: 31. Their amendment also has addressed the present rejection. Based on the foregoing, the Examiner is respectfully requested to remove this rejection.

In view of this Amendment and the foregoing discussion, Applicants contend they have fully responded to, and overcome, all of the pending rejections under 35 U.S.C. §112.

Rejection of Claims 5 and 13 under 35 U.S.C. §102.

Claims 5 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by or, alternatively, under 35 U.S.C. §103(a) as obvious over Artsaenko *et al.* (The Plant Journal, Vol. 8, No. 5, pages 745-750).

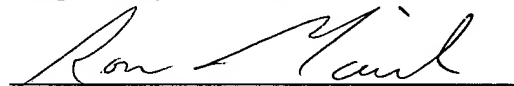
The Examiner explained that Artsaenko *et al.* teach tobacco plants transformed with DNA encoding an antigen binding scFv, and that there were insufficient identifying

characteristics in Applicants' claims to distinguish Applicants' invention over Artsaenko *et al.* Applicants respectfully traverse based on their present Amendment.

All of the amendments which Applicants have presently made were discussed above in relation to the written description requirements. Applicants assert that the newly amended claims that now are all limited to a nucleic acid constructs that drive the expression of only one scFv (SEQ ID NO: 32), recite with enough clarity and specificity to distinguish the plants and progeny of Claims 5 and 13 from those discussed in Artsaenko *et al.* Applicants therefore respectfully request the Examiner to remove their rejection under 35 U.S.C. §102(b) or, alternatively, under 35 U.S.C. §103(a)

In view of the foregoing, Applicants contend they have fully responded to, and overcome, all of the pending rejections and believe the case is in condition for allowance upon entry of this Amendment. Therefore, Applicants respectfully request the Examiner to enter the amendment, favorably consider the subject application and pass it to issuance in due course.

Respectfully submitted,



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Complete Marked-up Claim Set

1. A nucleic acid construct comprising in the 5' to 3' direction of transcription,
a promoter functional in a plant cell,
SEQ ID NO: 31 [a nucleic acid sequence that encodes an antibody or
fragment thereof having the ability to bind to a transit peptide selected from the
group consisting of SEQ ID NO:15 and SEQ ID NO: 56], and
a termination region functional in a plant cell.
2. A plant cell comprising the nucleic acid construct according to Claim 1.
3. The plant cell of Claim 2, wherein said plant cell is from a dicotyledonous plant.
4. The plant cell of Claim 2, wherein said plant cell is from a monocotyledonous
plant.
5. A plant or progeny thereof derived from the plant cell of claim 2 wherein the plant
or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32.
6. The plant of claim 5, wherein said plant is a maize plant.
- [7. The maize plant of claim 6 wherein said transit peptide is selected from the group
consisting of SEQ ID NO:15 and SEQ ID NO: 56.]
8. A method of decreasing the steady state level of a passenger protein in a plant cell
which comprises placing a nucleic acid construct of claim 1 in the plant cell and
expressing said construct [thereby producing an immunologically functional antibody or
fragment thereof].
9. The method of Claim 8 wherein said organelle is selected from the group
consisting of chloroplast, amyloplast, chromoplast, leucoplast, mitochondria, and the
nucleus.

[10. The method of Claim 8 wherein said antibody or fragment thereof is a single chain antibody molecule.]

12. A plant cell wherein the steady state level of a passenger protein found therein has been decreased by the method of Claim 8.

13. A plant or progeny thereof derived from a plant cell of Claim 12 wherein the plant or progeny thereof contains a functional single chain Fv described by SEQ ID NO: 32.